Amendments to the Specification

Please replace the Abstract of the Disclosure section with the following paragraph:

ABSTRACT OF THE DISCLOSURE

A device and method to detect force and provide feedback to a runner or jogger so that the person can judge whether to adjust his or her stride in order to lessen the impact on his or her body. The device includes a housing, a power supply, a piezo sensor, a controller, and an output generator. The piezo sensor is accommodated within a user's shoe and is connected to the controller, and the controller, output generator and power supply are accommodated within the housing. The controller is connected to the output generator so that it is set to generate a signal to the output generator when a threshold level of force signal is received from the piezo sensor. The sensor signals the controller when force from an impact is applied to the piezo sensor and the controller signals the output generator when one or more signals indicating threshold levels of force have been reached, and the output generator generates a perceivable signal in response to the controller's one or more signals.

Please replace paragraphs 1 and 2 with the following paragraphs:

[0001] Force detection devices have been commonly used in the prior art for rehabilitation from injuries caused by trauma to lower limbs. A large percentage of joggers and runners become injured in some fashion while running. Most of these joggers and runners do not realize that an improper stride may directly lead to, or at a minimum, contribute to these injuries. Overstriding is one example of an improper stride used by runners. Webster's dictionary defines overstride as "to stride over or beyond." Overstriding most often occurs when a moving person's foot strikes the ground in a position in front of a point directly below the runner's center of gravity. In this situation, the center of gravity is located just above the center of the pelvis when that person is running, and when a runner's foot strikes the ground too far in front of the center of gravity, the foot acts to brake or slow down the runner's momentum. The foot can land on the ground in a propping or braking position. When this happens, the foot's impact retards the forward motion of the body, and additional energy must be then expended to compensate for the loss.

[0002] A typical foot strike creates large impact forces which are mostly absorbed by the body's muscles, tendons, and ligaments. Any misalignment or imbalance in the gait can turn into a problem due to the repetition of the movements in walking, jogging or running. Most joggers and runners are unaware of these misalignments or imbalances, and of the loss of forward motion associated with inefficient strides, and many can spend an entire lifetime of running or jogging without knowing how much more economical their running or jogging action would be if they

learned to adjust to a more efficient stride. For example, some runners may need to reduce their

overall stride length and pick up their cadence to achieve the desired strides in their gait.

Please replace paragraphs 8 and 9 with the following paragraphs:

[0008] The apparatus includes a body force alarming apparatus comprising a housing, a power

supply, a piezo sensor, a controller, and an output generator, wherein said piezo sensor is

accommodated within a user's shoe and connected to said controller, wherein said piezo sensor,

controller and said output generator are connected to said power supply, wherein said controller,

output generator and power supply are accommodated within said housing, wherein said

controller is connected to said output generator, wherein said controller is set to generate a signal

to the output generator when a threshold level of force signal is received from said piezo sensor,

wherein said sensor signals said controller when force from an impact is applied to said piezo

sensor, wherein said controller signals said output generator when one or more signals indicating

threshold levels of force have been reached, and wherein said output generator generates a

perceivable signal in response to a signal from said controller.

[0009] An embodiment of the body force alarming apparatus includes two or more piezo sensors

to provide feedback when one or more levels of force are sensed instead of one. Another

embodiment includes a means to automatically adjust the controller. Another embodiment of the

present invention includes a microcontroller wherein said microcontroller, once activated by a

user with a switch, performs the steps of recording one or more impact levels for a

predetermined period of time, averaging said amounts of impact recorded over said period of

time; and setting the controller's feedback threshold to an amount above or below the average

value. Yet another embodiment includes a microcontroller wherein said microcontroller, once

activated by a user with a switch, performs the steps of recording one or more impact levels for a

predetermined period of time, averaging said amounts of impact recorded over said period of

time; and setting the controller's feedback threshold to an amount greater than said average.

Please replace paragraph 11 with the following paragraph:

[0011] Yet another embodiment of the body force alarming apparatus includes an impact

transducer. Another embodiment of the body force alarming apparatus includes the sensor,

controller and feedback generator accommodated within a person's shoe. Another embodiment

of the body force alarming apparatus includes a perceivable signal that is an audio beep, a

musical tone or tones, a click, a vibration, a shock, a pressure applied to the user, or a light

emission.

Please replace paragraph 26 with the following paragraph:

[0026] Lead wires are either already connected to the piezo sensors as purchased or they are

connected after the product is cut. The piezo sensor is connected by a wire to controller which is

designed to receive and evaluate the signals from the sensor. The sensor in one embodiment is

placed inside a user's shoe, under the sole of the foot. The sensor can be placed within a user's

shoe, for example it can be contained in a user's insole, midsole, or it can be placed within other

areas of the shoe. It can also be affixed with adhesive to a portion of an insole, midsole or the

shoe itself. It can also be placed anywhere on the body to measure impact at that point on the

body.

Please replace paragraphs 29-34 with the following paragraphs:

[0029] Before the embodiments of the present invention are initially used, they are pre-set to

generate output when at least one specific amount of force is sensed by the controller. In later

steps, the controller is set to generate a signal to the output generator when a threshold level of

force signal is received from said sensor. This is initially set before the first use to produce an

output signal when a certain amount of impact force is sensed, and this amount is approximately

50 percent of a two hundred pound human's weight. This can be changed at any time before or

after the initial use based on the user's preferences.

[0030] The auto adjusting features of other embodiments can be used in different ways with the

main goal which is to allow auto adjusting of the controller so that the level of desired feedback

is set automatically to the user's preference. The threshold levels can be auto adjusted to various

levels depending on level of feedback desired and the amount of impact generated by the user.

[0031]   In one embodiment, a runner can run with his or her normal stride to calibrate the base

threshold level. The controller can be set to "learn mode" or "auto-calibrate mode" from a user

originated action such as pressing a "calibrate mode" button found on the outside of the housing

12. Controller, now in learn mode, can receive and record the impact force levels from the

sensor over a predetermined period of time, approximately 20 seconds, or until learned mode is

turned off by the user with a second pressing of the "calibrate mode" button or until the time has

run out.

[0032]   After the "learn mode" is completed, the controller determines the threshold level 100

based on the average impact force levels recorded during the learn mode function. The controller

then stores this threshold level 100 into the controller's internal memory, where it can then be

used in conjunction with determining whether or not to produce a signal to the output generator.

The learn mode results can be stored as threshold level 100 or, in an alternative embodiment, the

learn mode results can be changed to add or subtract a percentage before they are stored as

threshold level 100. The threshold level 100 can also be changed after the learn mode results

have been stored as threshold level 100. For example, a runner uses the auto adjust learn mode to

adjust the controller to his or her preference, and the controller can add 10 percent so that if the

runner goes over his or her preference by more than 10% impact, the controller will generate a

signal to the output generator and a perceivable signal will be heard by the runner.

[0033]   Another embodiment or variation has an additional user determined setting for

beginner, intermediate and advanced users, in the form of a switch. This setting varies the

average threshold which was derived from the learn mode. The beginning level has the highest

level of threshold, the intermediate level has a middle level of threshold and the advanced level

has the lowest threshold before the output generator is signaled by the controller.

[0034]   For example, if the controller is set to beginner, the threshold is very high and it takes a

large impact for the controller to signal the output generator which in turn generates a signal to

the user that is perceivable. The beginner could have a somewhat impactful stride and still not

generate a signal to the output generator until a strong impact stride was detected by the

controller.

Please replace paragraph 36 with the following paragraph:

[0036] Embodiments of the present invention reduce impact on your body by alerting with an

alarm, for example a loud beep, when the user is impacting the ground with a harmful or

inefficient stride. In this way, runners can monitor their strides while at the same time avoid

potential injuries by moving using safer strides. This results in less stress to the entire body. In

one embodiment, a runner can set his or her running skill level before they begin to run. In this

way, a beginner can use a more forgiving setting than a setting used by a highly skilled runner.

This embodiment alerts the user with a beep whenever a set threshold is reached, and this beep

serves to notify the runner and/or the trainer to run with strides that have less impact and thus

more efficiently. Further, the challenge of perfecting one's stride can be entertaining to the user

and further serve as a distraction to the runner during times of prolonged activity. In another

example of a use for an embodiment of the present invention, when a runner is receiving

information that she or he is impacting harder than she or he would like, and the runner is unable

to modify their running stride to create ground strikes with less impact, the runner can instead

move to a more forgiving surface, such as a running track or a sandy beach. The present

invention helps athletes run longer, and it helps them more run more frequently because it helps

prevent injuries.

Please replace paragraph 45 with the following paragraph:

[0045] FIG. 1 also shows display 18 with a value of "64" indicating the level of the current or recent impact. In this embodiment, the number displayed is scaled in direct proportion to the impact level, with no impact displaying zero and the greatest sensed impact, within the maximum limit of the sensor, being ninety nine. Sensor 20's position, which would not be externally visible to the user, is indicated by the dashed line. In this embodiment, it is incorporated into the sole of the shoe.